

**STATE OF ARIZONA**

Clean Water Act Section 401 Water Quality Certification

U.S. Army Corps of Engineers Public Notice / Application No.: **SPL-2008-00816-MB**  
ADEQ LTF 55425

**1.0 AUTHORIZATION**

This State Water Quality Certification (Certification) is issued by the Arizona Department of Environmental Quality (ADEQ) under the authority of Section 401(a) of the federal Clean Water Act (CWA) (33 U.S.C. §1251 et seq.) and Arizona Revised Statutes Section 49-202. The conditions listed in Section 5.0 are in addition to conditions in the pending U.S. Army Corps of Engineers (CoE) Application No. SPL-2008-00816-MB. These Certification conditions are enforceable by CoE. Civil penalties up to a maximum of \$25,000 per day of violation may be levied if these Certification conditions are violated. Criminal penalties may also be levied if a person knowingly violates any provision of the CWA.

Subject to the conditions in Section 5.0, ADEQ certifies that based on the information in Section 3.0, the activities proposed for the **Rosemont Copper Project** will not violate applicable surface water quality standards in the subject waterbodies including McCleary, Scholefield, Wasp and Barrel Canyons – all ephemeral tributaries to Davidson Canyon in the Santa Cruz River Watershed, near Greaterville, Pima County.

**1.1 APPLICANT INFORMATION**

**Project Name:** **Rosemont Copper Project**

**Latitude/Longitude:** 31° 49' 45.3"; 110° 44' 35.2"

**Applicant:** Rosemont Copper Company  
Ms. Katherine Arnold, Vice President  
Environmental & Regulatory Affairs

**Applicant Address:** 2450 W. Ruthrauff Road, #180  
Tucson, AZ 85705

**1.2 AUTHORIZING SIGNATURE**

\_\_\_\_\_  
**Signature**  
**Water Quality Division**  
**Arizona Department of Environmental Quality**

Signed this \_\_\_\_ day of \_\_\_\_\_, 2014

## 2.0 DESCRIPTION OF ACTIVITIES BEING CERTIFIED

The proposed Rosemont Copper Project will directly impact approximately 38.6 acres of waters of the U.S. (WUS) with the discharge of dredged/fill material as detailed in Table 2 of the CoE Public Notice /Application No. SPL-2008-00816-MB. In addition, approximately 2.5 acres will be indirectly impacted by the reduced flows in Barrel Canyon down to its confluence with McCleary Canyon, resulting from the development of the dry stack tailings and waste rock facilities in Barrel Canyon. Lastly, approximately 0.75 acres of WUS will be temporarily impacted by the water line crossing and road access for utility pole construction. NOTE: Changes have been made to the project design during the development of the Final Environmental Impact Statement that modified certain activities proposed in this Public Notice.

## 3.0 INFORMATION REVIEWED

During the development of this State Certification, ADEQ had access to and reviewed the following documents which are on file with ADEQ:

1. U.S. Army Corps of Engineers Public Notice / Application No. 2008-00816-MB. Comment period from December 6, 2011 through January 19, 2012.
2. CWA Section 401 Certification application package dated January 12, 2012, received by ADEQ on January 17, 2012; applicant: Katherine Arnold, Rosemont Copper; agent: Brian Lindenlaub, Westland Resources Inc. Review of application was suspended on January 25, 2012 pending completion of a federal action and reinitiated on January 3, 2014 following the publication of the draft Record of Decision for the Project by the USDA Forest Service, Southwest Region.
3. State of Arizona, Water Quality Standards for Surface Waters, A.A.C. Title 18, Chapter 11, Article 1. Davidson Canyon is designated as an Outstanding Arizona Water beginning approximately 13 miles downstream from the subject project (as estimated from USGS gage at the downstream end of project site) and continuing downstream from that point. *Available online at: [http://www.azsos.gov/public\\_services/Title\\_18/18-11.htm](http://www.azsos.gov/public_services/Title_18/18-11.htm)*
4. "Final Environmental Impact Statement for the Rosemont Copper Project", USDA Forest Service, Southwest Region, MB-R3-05-6, December, 2013. *Available online at: <http://www.rosemonteis.us/>*
5. "Draft Record of Decision and Finding of Nonsignificant Forest Plan Amendment for the Rosemont Copper Project", USDA Forest Service, Southwest Region, MB-R3-05-9, December, 2013. *Available online at: <http://www.rosemonteis.us/>*
6. Davidson Canyon Unique Water Nomination, prepared by Pima Association of Governments for Pima County Regional Flood Control District, January, 2005. *Available at <http://www.rosemonteis.us/documents/pag-watershed-planning-2005>*
7. "Contribution of Davidson Canyon to Base Flows in Cienega Creek", prepared by Pima Association of Governments, November, 2003. *Available at: [http://www.pagnet.org/wq/reports/wq\\_report\\_94.html](http://www.pagnet.org/wq/reports/wq_report_94.html)*

8. "Water Resource Trends in the Cienega Creek Natural Preserve, Pima County, AZ" prepared by Brian Powell, Pima County Office of Sustainability and Conservation, August 2013. Available at: <http://www.rosemonteis.us/files/references/powell-2013.pdf>
9. Technical Memorandum, "Rosemont Surface Water Quality Baseline Analysis", prepared by Mike Thornbrue, Tetra Tech, April 13, 2010.
10. "Davidson Canyon Hydrogeologic Conceptual Model and Assessment of Spring Impacts", Tetra Tech, July, 2010.
11. Technical Memorandum, "Rosemont Conceptual Barrel Alternative Stormwater Control Alternatives", by Ronson Chee, Tetra Tech, January 31, 2012.
12. "Davidson Canyon Conceptual Surface Water Monitoring Plan", prepared by Water and Earth Technologies, Inc., March, 2012.
13. "Davidson Canyon Conceptual Groundwater Monitoring Plan", prepared by Engineering Analytics, Inc., March, 2012.
14. "Integrated Watershed Summary - Rosemont Project", Rosemont Copper, June 2012.
15. Memorandum, "Estimates of Phasing of Stormwater Reductions during Operations", prepared by Chris Garrett, SWCA, April 5, 2013.
16. Draft Memorandum "Revised Analysis of Surface Water Quality", prepared by Chris Garrett, SWCA, August 25, 2013.
17. Arizona Game and Fish Department letter to Marjorie Blaine, ACOE Project Officer, dated January 17, 2012 Re: Public Notice No. 2008-00816-MB.
18. Bureau of Land Management, Tucson Field Office, Comments on Rosemont Mine 404 Permit Application, undated.
19. EPA letter to Colonel R. Mark Toy, ACOE District Engineer, LA District, dated January 5, 2012 Re: Public Notice No. 2008-00816-MB.
20. EPA letter to Colonel R. Mark Toy, ACOE District Engineer, LA District, dated February 13, 2012 Re: Public Notice No. 2008-00816-MB.
21. EPA letter to Colonel Kim Colloton, ACOE District Engineer, LA District, dated November 7, 2012 Re: Analysis of updated draft CWA §404 Compensatory Mitigation Proposals for Rosemont Mine, Pima County, AZ.
22. Rosemont letter to Colonel Kim Colloton, ACOE District Engineer, LA District, dated December 13, 2013 Re: EPA Evaluation of Rosemont Mine Compensatory Mitigation.
23. Pima County Administrator's Office letter to Colonel Kim Colloton, ACOE District Engineer, LA District, dated December 30, 2013 Re: EPA November 7, 2013 letter and Rosemont December 13, 2013 letters.

#### 4.0 NOTIFICATION PROVISIONS

For any correspondence regarding this project, the ADEQ mailing address is:

Arizona Department of Environmental Quality  
Robert Scalamera  
Surface Water Section / State 401 Certification / mailstop 5415A-1  
1110 West Washington Street  
Phoenix, Arizona 85007

For questions or general comments:

email: XXX@azdeq.gov  
Voice: (602) xxx-xxxx

In any correspondence, reference:

**Rosemont Copper Project**  
CoE File No.: **2008-00816-MB**  
ADEQ LTF No.: **55425**  
401 cert reading file: **rs314:005**

## 5.0 CONDITIONS FOR STATE 401 WATER QUALITY CERTIFICATION

For the purposes of this Certification the following definitions apply:

- Waters of the U.S. (WUS) as defined by the CoE and U.S. Environmental Protection Agency (EPA) under the Clean Water Act. This Certification applies only to activities within a WUS.
- Temporary means no longer than the period of this Certification.
- Native material/fill is defined as pollutant-free soil, sand, gravel or similar material from the streambed or banks in the immediate area of the permitted work.
- Emergency vehicles and emergency responders are not restricted by the conditions in this Certification.

### 5.1 General Conditions

ADEQ's State 401 Water Quality Certification of these activities proposed by the applicable CWA 404 Permit, does not affect or modify in any way the obligations or liability of any person for any damages, injury, or loss, resulting from these activities. This Certification is not intended to waive any other federal, state or local laws.

If monitoring, by ADEQ or others, indicates that water quality may be adversely affected by the activities certified herein, ADEQ will notify the CoE and request suspension of the CWA 404 permit.

Issuance of a State 401 Water Quality Certification does not imply or suggest that requirements for other permits including, but not limited to Aquifer Protection Permits, Arizona Pollutant Discharge Elimination System Permits, Reclaimed Water permits are met or superseded. Applicant should contact ADEQ to ensure all applicable permits are obtained.

This Certification applies only to the activities described in Section 2.0 and is based upon the information listed in Section 3.0. This Certification is valid for the same period as the CWA 404 permit, as issued by the CoE. The applicant must apply for renewal, modification or extension of this Certification if the CWA 404 permit is renewed, modified, extended or otherwise changed. This Certification may be reopened, by ADEQ, at any time due to a change (i.e., lowered or more stringent) in a surface water quality standard for a parameter

likely to result from project activities. ADEQ may add or modify conditions in this Certification to ensure that the applicant's activities comply with the most recent standard.

- 1) The applicant shall provide a copy of this Certification to all appropriate contractors and subcontractors. The applicant shall also post and maintain a legible copy of this Certification in a weather-resistant location at the construction site where it may be seen by the workers.
- 2) The applicant shall notify ADEQ of project completion within 30 days following project completion.
- 3) The applicant is responsible for all activities certified herein and any exceedences of WQS in any WUS that such activities may cause or contribute to.
- 4) This Certification does not authorize the discharge of mining, construction or demolition wastes, wastewater, process residues or other potential pollutants to any WUS except as specified in the application and supporting documents and allowed, specified or not prohibited in the CWA 404 permit or elsewhere in this Certification.
- 5) The applicant shall provide a copy of monitoring results report Record of Decision (ROD) General Stipulation #15 to ADEQ on quarterly basis.
- 6) The applicant shall provide a copy of the annual report ROD General Stipulation #16 to ADEQ.

## 5.2 Specific Conditions

Except as specified in the application and supporting documents and allowed, specified or not prohibited in the CWA 404 permit or elsewhere in this Certification, the following specific conditions apply to all certified project activities.

- 1) Within 180 days of the effective date of the CWA 404 permit, the applicant shall submit to ADEQ, for review and approval, a surface water mitigation program designed to maintain aquatic and riparian resources at pre-project levels in Davidson Canyon and Lower Cienega Creek. The program shall include, but is not limited to, a description of measures that will be taken to offset predicted reductions in surface water flow, in response to the project, along with a proposed schedule for implementation. The Final Environmental Impact Statement (FEIS) predicts a 17.2% reduction in average annual post-closure stormwater runoff volume as a result of the proposed activities. The surface water mitigation program shall describe measures that will offset the reduced runoff volume should it occur. The draft mitigation program shall be submitted to the address and contact person in Section 4.0.

The mitigation program shall identify measures, as necessary, to ensure that any water used to mitigate a predicted reduction in stream flows, meets applicable Arizona surface water quality standards, including for Outstanding Arizona Waters, where applicable.

Within 30 days of ADEQ approval of the program, the applicant shall implement the approved mitigation program in accordance with the schedule set forth in the approved program. Should the results of required monitoring and/or revised hydrologic modeling (FEIS Mitigation Measures FS-BR-22, FS-BR-27, FS-GW-02, FS-SR-05) indicate that water quality in Davidson Canyon or Lower Cienega Creek may be adversely affected by the activities certified herein, ADEQ may request that the COE suspend the CWA 404 Permit and require additional mitigation.

### **Stormwater Management**

- 2) Industrial stormwater discharges covered under Arizona's Mining Multi-Sector General Permit (Mining MSGP) and allowable non-stormwater discharges, identified in Part 1.1.3 of ADEQ's Mining MSGP, must not cause or contribute to a violation of an Arizona Surface Water Quality Standard.
- 3) Stormwater that comes into contact with mine drainage that is subject to 40 CFR Part 440 or any other process water is not authorized to be discharged and is not covered under Arizona's Mining MSGP.
- 4) Unimpacted stormwater that has not been in contact with mine operations may be diverted directly to surface water.

### **Erosion Prevention and Hydraulic Alterations**

- 5) Clearing, grubbing, scraping or otherwise exposing erodible surfaces shall be minimized to the extent necessary for each construction phase or location.
- 6) Dredged or fill material shall be placed so that it is stable, meaning after placement, the material does not show signs of excessive erosion. Indicators of excess erosion include: gullyng, head cutting, caving, block slippage, material sloughing, etc. Material shall not discharge (e.g., via leaching, runoff) harmful or toxic substances into streams or wetlands.
- 7) Erosion control, sediment control and/or bank protection measures shall be installed before construction and pre-operation activities, and shall be maintained during construction and post-construction periods to minimize channel or bank erosion, soil loss and sedimentation. Control measures shall not be constructed of uncemented or unconfined imported soil, or other materials easily transported by flow.
- 8) The effectiveness of all pollution control measures, including those preventing erosion and affecting sedimentation, shall be reevaluated after each flow event and repaired/modified as needed.
- 9) Direct runoff of water used for irrigation or dust control shall be limited to the extent practicable and shall not cause downstream erosion or flooding nor cause an exceedence of applicable water quality standards.

- 10) Except where the activities certified herein are intended to permanently alter any WUS, all disturbed areas shall be restored and (re)vegetated as indicated in the application documents if approved by the CoE (including offsite/*in lieu* mitigation). Denuded areas shall be revegetated as soon as physically practicable. Vegetation shall be maintained on unarmored banks and slopes to stabilize soil and prevent erosion. Fill used to support vegetation rooting or growth shall be protected from erosion.
- 11) If retention/detention basins are included in or added to the project, applicant will complete the grading necessary to direct runoff towards retention/detention basins no later than immediately following initial land clearing or rough grading.
- 12) Retention/detention basins shall be sized to accept storm runoff and capture sediment prior to it entering any WUS. Detention basins will provide detention through the use of controlled outflow spillways and shall cause no significant change to the hydraulic conditions of the downstream WUS outside of the project boundaries. The basins shall be maintained as needed to maintain functionality.
- 13) Activities herein certified shall, as much as practicable, be performed during periods of no flow in any WUS. No work shall be done, nor shall any equipment or vehicles enter any WUS while flow is present, unless all conditions in this Certification are met.
- 14) When flow is present in any WUS within the project area, the applicant and any contractor will not alter the flow by any means except to prevent erosion or pollution of any WUS.
- 15) Any disturbance in the stream bank or streambed areas shall be stabilized to prevent erosion and sedimentation of the waterbody during and after operations. Any disturbed areas shall be contoured and vegetated as soon as practicable.
- 16) Applicant will take measures necessary to prevent approaches to any WUS crossing from causing erosion or contributing sediment to any WUS.
- 17) The applicant shall ensure no adverse change, due to the subject project, will occur in the stability with respect to stream hydraulics, erosion and sediment load, of any WUS including downstream from the project. If such change is likely to occur or has occurred, the applicant shall take steps to restore the pre-project stability of any impacted segments.

### **Sediment Loads**

- 18) When flow in any WUS in the work area is sufficient to erode, carry or deposit material, activities certified herein shall cease until:
  - the flow decreases below the point where sediment movement ceases, or
  - control measures have been undertaken; e.g., equipment and materials easily transported by flow are protected with non-erodible barriers or moved outside the flow area.

- 19) Silt laden or turbid water resulting from activities certified herein shall be settled, filtered or otherwise treated to ensure no exceedence of, or reduction from, natural background levels of sediment occurs in any WUS.
- 20) Any washing or dewatering of fill material must occur outside of any WUS prior to placement and the rinseate from such washing shall be settled, filtered or otherwise treated to prevent migration of pollutants (including sediment) or from causing erosion to any WUS. Other than replacement of native fill or material used to support vegetation rooting or growth, fill placed in locations subject to scour must resist washout whether such resistance is derived via particle size limits, presence of a binder, vegetation, or other armoring.

### **Pollution Prevention**

- 21) If activities certified herein are likely to cause or contribute to a violation of water quality standards - operations shall cease until the problem is resolved or until control measures have been undertaken.
- 22) Construction material and/or fill (other than native fill or that necessary to support re-vegetation) placed in any WUS, shall not include materials that can cause or contribute to pollution of the WUS. Examples of prohibited fill include pollutant-contaminated soil and materials defined as pollutants or hazardous in Arizona Revised Statutes (A.R.S.) § 49-201.

Acceptable construction materials that will or may contact water in any WUS are: untreated logs and lumber; natural stone (crushed or not), crushed clean concrete (recycled concrete); native fill; precast, sprayed or cast-in-place concrete (including soil cement and unmodified grouts); steel (including galvanized); plastic and aluminum. Other materials allowed for this project, only if placed in accordance with application and supporting documents, are mining residues including tires, waste rock, gangue and tailings.

- 23) The applicant shall erect barriers, covers, shields and other protective devices as necessary to prevent any construction materials, equipment or contaminants/pollutants from falling, being thrown or otherwise entering any WUS.
- 24) Area(s) must be designated, entirely outside of any WUS, for equipment staging and storage. In addition, the applicant must designate areas, located entirely outside of any WUS, for fuel, oil and other petroleum product storage and for solid waste containment. All precautions shall be taken to avoid the release of wastes, fuel or other pollutants to any WUS.
  - Any equipment maintenance, washing or fueling that cannot be done offsite will be performed in the designated protected area. All equipment shall be inspected for leaks, all leaks shall be repaired and all repaired equipment will be cleaned to remove any fuel or other fluid residue prior to use within (including crossing) any WUS.



- A spill containment plan shall be maintained onsite to ensure that pollutants are prevented from entering any WUS. Any pollutant generated by activities certified herein shall be properly disposed of in accordance with applicable regulations.
- 25) A spill response kit will be maintained in this (these) area(s) to mitigate any spills. The kit will include material specifically manufactured and sold as spill adsorbent/absorbent and spill containment. The applicant will ensure that whenever there is activity on the site, that there are personnel on site trained in the proper response to spills and the use of spill response equipment.
- 26) Upon completion of the activities certified herein (except as noted in condition 27 - concrete curing), areas within any WUS shall be promptly cleared of all forms, piling, construction residues, equipment, debris or other obstructions.
- 27) If fully, partially or occasionally submerged structures are constructed of cast-in-place concrete instead of pre-cast concrete, applicant will take steps; e.g., sheet piling or temporary dams, to prevent contact between water (instream and runoff) and the concrete until it cures and until any curing agents have evaporated or otherwise cease to be available; i.e., are no longer a pollutant threat.
- 28) Washout of concrete handling equipment must not take place within any WUS and any washout runoff shall be prevented from entering any WUS.

#### **Temporary and Permanent Structures**

- 29) Permanent pipes, temporary pipes and culvert crossings shall be adequately sized to handle expected flow and properly set with end section, splash pads, headwalls or other structures that dissipate water energy to control erosion.
- 30) Debris will be cleared as needed from culverts, ditches, dips and other drainage structures in any WUS to prevent clogging or conditions that may lead to washout.
- 31) All temporary structures constructed of imported materials and all permanent structures, including but not limited to, access roadways; culvert crossings; staging areas; material stockpiles; berms, dikes and pads, shall be constructed so as to accommodate overtopping and resist washout by streamflow.
- 32) Any temporary crossing, other than fords on native material, shall be constructed in such a manner so as to provide armoring of the stream channel. Materials used to provide this armoring shall not include anything easily transportable by flow. Examples of acceptable materials include steel plates, untreated wooden planks, pre-cast concrete planks or blocks; examples of unacceptable materials include clay, silt, sand and gravel finer than cobble (roughly fist-sized). The armoring must, via mass, anchoring systems or a combination of the two, resist washout.
- 33) No vehicles or equipment shall ford any unarmored WUS crossing when flow is present.
- 34) Any ford, other than fords on native material, shall be designed, and maintained as necessary, to carry the proposed traffic without causing erosion or

sedimentation of the stream channel while dry or during a flow event equal to or less than the design event for the crossing.

- 35) No unarmored ford shall be subject to heavy-truck or equipment traffic after a flow event until the stream bed is dry enough to support the traffic without disturbing streambed material to a greater extent than in dry conditions. Light vehicles (less than 14,000 pounds gross weight) are not restricted by this condition.
- 36) Temporary structures constructed of imported materials are to be removed no later than upon completion of the permitted activity.
- 37) Temporary structures constructed of native materials, if they provide an obstacle to flow, or can contribute to or cause erosion, or cause changes in sediment load, are to be removed no later than upon completion of the permitted activity.

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